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Virginia Livestock Aided by MATCHING FUND PROGRAM



VIRGINIA farmers are producing more meat-type hogs and selling them for better prices than they did just a few years ago.

From representatives of the Division of Markets, Virginia Department of Agriculture, and the Virginia Agricultural Extension Service, they have learned the how, when, and where of successful production and marketing.

This educational work, along with similar projects in other States, is being conducted under the Federal-State Matching Fund Program. Authorized by the Agricultural Marketing Act of 1946, this program combines Federal and State funds to provide a practical marketing service program at the State level. The latest research findings are translated and put to work in actual marketing situations for the benefit of producer, processor, and distributor.

In Virginia, one of the major Matching Fund projects deals with livestock. This program seeks to keep the livestock farmer informed about the types of meat the consumer wants. It then helps him produce and market this meat.

Special interest is being centered on meat-type hogs. To stimulate pro-

duction, State marketing men in cooperation with extension workers have gone directly to the farmer. They have explained to him the dollars-and-cents value of selling leaner hogs. They have helped him find meat-type breeding stock and feeder pigs, and demonstrated the most advantageous weights at which to market hogs.

Benefits of the program may be seen in the ever improving grades of Virginia-marketed hogs.

From May through December 1957, only 43 percent of the hogs live-graded by the Virginia Department of Agriculture rated U.S. No. 1. Yet in the following period, from January through July 1958, more than 61 percent received this grade.

This improvement in grade brought Virginia producers an additional return of \$27,000 the first seven months of 1958.

Also, considerably more U.S. No. 2 hogs were marketed early in 1958 and noticeably fewer U.S. No. 3's. This, too, added to the earnings of Virginia livestock farmers.

In addition to work with the meat-type hog, State marketing agents conducted cattle and sheep programs in Virginia. Again, the prime purpose

of their activities was to keep farmers informed so they could make wiser marketing decisions.

In cooperation with the Federal-State statistician, a survey of cattle on grain feed was conducted in October 1957 and January 1958. The results of these cattle counts gave livestock producers and marketing men a good idea of what supplies would soon be available for market. It also helped the Virginia Department of Agriculture decide the time and place of special slaughter sales.

Ten of these sales were held in fiscal 1957-58. They were conducted with the cooperation of the State extension livestock marketing specialists and county agents—at Fredericksburg by the Tidewater Beef Cattle Association and in Richmond by the Virginia Farm Bureau Federation.

Seven hundred and four cattle were sold at these sales for an average price of \$246.40 a head. This was about \$18 more than they would have brought through regular auctions.

Special sales also were conducted for native ewes. In Southwest Virginia, the trend toward expanded sheep production had resulted in a demand

(Continued on page 16)

New Specifications for Institutional Meat Buyers

by James N. Constantine

LARGE-SCALE meat buying promises to be easier than ever—thanks to a new series of meat purchase specifications now being issued by the U. S. Department of Agriculture.

The new “specs” for the first time consolidate in one series the many specifications used by institutional purchasers of meat. They are tailored to fit the needs of buyers for hospitals, steamship lines, hotels, and the like who use the USDA Acceptance Service.

This service, which has been available for more than 30 years, is operated by the Livestock Division of the Agricultural Marketing Service, whose Federal meat graders examine and “accept” meat supplied under contract arrangements. The examination usually covers factors such as grade, trim, and fat content.

In the past, each institution for which acceptance service was performed prepared and published its own specifications. Frequently, the

specifications for the same item would differ slightly.

The new “Institutional Meat Purchase Specifications,” by standardizing the specifications for almost all the meat items likely to be needed by any large-scale buyer, promises to eliminate this source of confusion for meat suppliers and the meat graders who perform the acceptance service.

Both purchasing agents and meat suppliers assisted USDA meat specialists in working out the series of purchase specifications. Specifications have been, or soon will be, issued for fresh beef, fresh lamb and mutton, fresh veal and calf, fresh pork, cured and smoked pork, cured beef, sausage, edible by-products, canned meats, and portion control meats. There is also a leaflet which describes “General Requirements” for using the specifications. It, as well as the specifications, is sold through the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

The specifications have been prepared to make their use as easy as possible. Each item is numbered and may be referred to simply by number.

The specifications for fresh beef, for instance, are called “Series 100,” and the items in this category are numbered from 100 to 186.

Each of the 86 items listed in this specification is described in careful detail. When a purchasing agent orders any item—say, beef item 104 (Rib, Oven-Prepared)—there is no doubt on the part of the supplier or the USDA meat grader as to what is wanted.

Using these specifications, all the purchaser needs to state, in addition to the item number, is the grade (U.S. Prime, U.S. Choice, or other U.S. grade); the state of refrigeration (chilled or frozen); and the weight range (there are five weight ranges for beef items listed in a handy index).

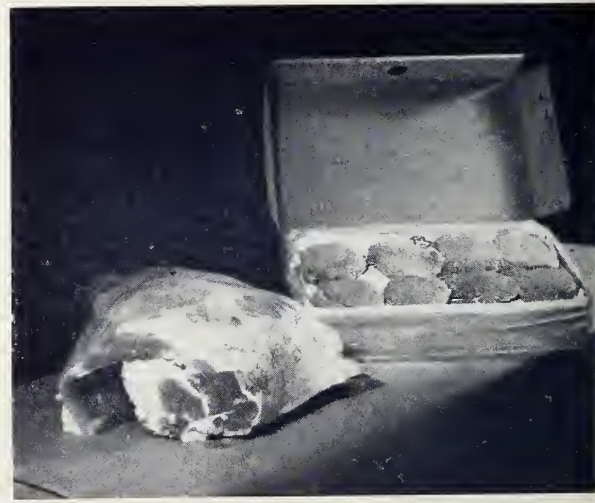
A purchasing agent making up a list of his needs, then, might specify Item 104, U.S. Choice, weight range 3, chilled.

Here’s how the purchasing agent makes use of the new specifications and the USDA meat acceptance service.

1. He obtains from the Government



As part of examination, Federal meat grader measures beef rib for 10-inch cut.



Leg of veal, portion-control cutlets prepared to meet specs.

Printing Office copies of the specifications covering the meats and meat products he wishes to purchase. (It is necessary that prospective bidders have copies, too.)

2. He lists the items he is going to buy, indicating the grade, weight range, and state of refrigeration.

3. He seeks bids on the items desired and awards contracts to the low bidders, and then notifies the nearest USDA meat grading supervisor or the Meat Grading Branch, Livestock Division, Agricultural Marketing Service, USDA, Washington 25, D. C.

The next step is the responsibility of the supplier. When the purchaser requests delivery, the supplier asks the nearest meat grading office to have a grader examine the product for compliance with the specifications. The cost for this service usually is borne by the supplier.

The grader stamps each acceptable meat item or the sealed carton in which it is contained with a shield-stamp bearing the words "USDA Accepted as Specified." This assures the purchaser that all products delivered to him meet specifications.

Shield-shaped USDA acceptance stamp shows that this veal leg has been certified by Federal meat grader.



Having met specifications, boneless beef loin gets USDA stamp.



Meat cutter fabricates an oven-prepared leg of lamb to meet specifications. The leg on left has already been accepted.



Eggs are removed from cases 30 at a time. They are placed directly on conveyor-flash candler.

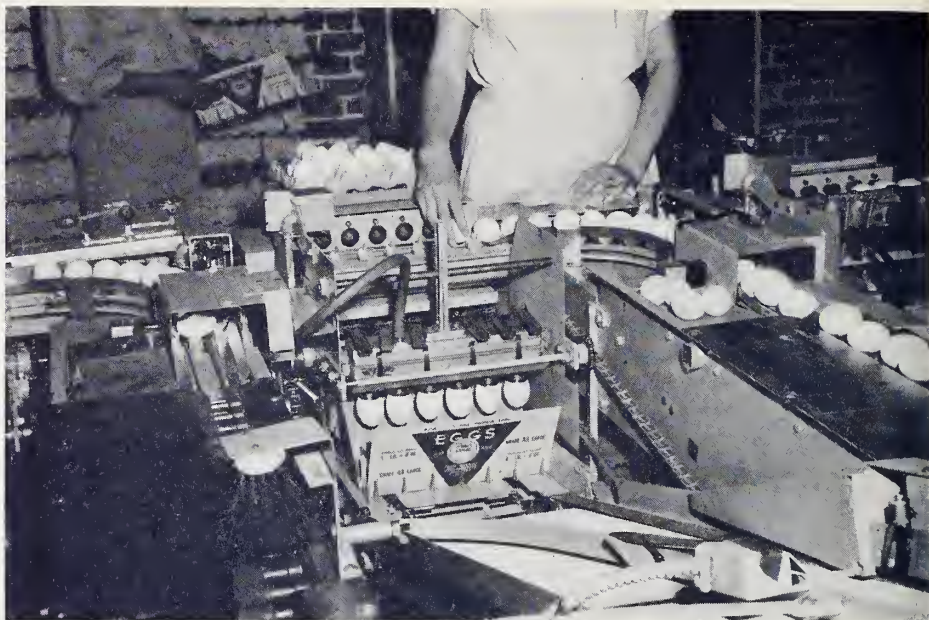


Properly positioned eggs move in single file to the transfer unit where they will be cartoned.



Around this corner, eggs are picked up—6 at a time—and placed in awaiting consumer cartons.

Lug-equipped conveyor belts position cartons.



Newly designed AMS grading and packing line cartons graded eggs at a rate of 7,200 eggs an hour.

AMS Develops

Automatic Egg Line

AN automatic grading and packing line capable of cartoning graded eggs at a rate of 7,200 eggs an hour has been developed by research specialists in the Agricultural Marketing Service.

Handling consistently fine quality eggs, two workers can operate the machine at near top capacity.

The improved egg grading and packing line incorporates the newly developed electronic bloodspot detector with the latest in AMS egg handling equipment.

Ungraded eggs are first examined for dirty or cracked shells as they pass over a specially lit conveyor. Eggs containing bloodspots are removed automatically by the electronic detector. Clear eggs move onto a line of scales where they are individually weighed and channeled to the packing units.

The packaging units are a unique feature of the assembly line. They automatically position the eggs with the small ends down. (For quality reasons, eggs must be packaged in this position.)

Properly aligned on the conveyor, the eggs continue to a vacuum transfer unit which grasps six eggs at a time and places them in an awaiting carton. Cartons are belt positioned from an automatic dispenser.

A system of switches and cams controls packaging operations and times movement of eggs and cartons.

Automatic packaging appears to be the key to maximum efficiency in egg grading and handling. But, like any new piece of equipment, it will not prove the answer to all egg handling problems.

Many areas cannot as yet supply the uniformly high quality eggs required for marketing without hand candling. Equipment and maintenance costs are high and the loss of production during shut-downs expensive.

Before installing a commercial line of this type, management should carefully evaluate its own egg quality control program and maintenance facilities. Then, if the situation is right, an automatic grading and packing line can save money for the handler while bringing a better product to retail.

Lard Marketing Margins and Costs

Agricultural Marketing Service research analysts find most of the marketing costs of lard go for wholesaling and retailing.

by John W. Thompson

MARTIN White, an Iowa farmer, shipped a load of medium-weight hogs to the terminal market in Sioux City during a recent marketing season. These hogs sold for \$16.95 a hundred-weight. Each of the hog carcasses yielded 32 pounds of lard in addition to the meat and byproducts.

For White, this meant an estimated return of 8.1 cents a pound for the lard from his hogs—a computed return that takes into account the proportionate value of other products from these hogs. At this same time, lard was retailing for 21.7 cents a pound.

Where did this money go—the extra 13.6 cents that lay between White and the consumer?

AMS economists, who studied this particular case in costs and margins, as well as the general marketing situation for lard, found that most of the marketing costs of lard go for wholesaling and retailing.

The wholesaler who handled White's lard received 43 percent of the marketing costs; the retailer 37 percent. The slaughterer accounted for the remaining 20 percent.

In dollars and cents, the lard sold by White in Sioux City brought the slaughterer an estimated return of 2.7 cents a pound, out of which he had to pay his slaughtering and rendering costs.

The wholesaler who refined, packaged, and transported the lard to New York received 5.8 cents. And the retailer, for his part in the marketing operation, received 5.1 cents.

The story of lard, like many other agricultural products, depends upon the marketing charges that lie between the farmer and the consumer. It de-

pends on the costs of services, labor, and goods—and the need for more and better processing and the efficiencies of mechanized equipment and volume handling.

It also depends upon the market for lard. And, in recent years this market has been changing rapidly.

Fortunately for the industry, a broad new outlet for lard has developed since World War II. Many shortening manufacturers and some margarine manufacturers are using lard to replace vegetable oils. During 1958, about 334 million pounds, or 14 percent of the domestic disappearance of lard, went into shortening and margarine.

This new outlet has come at a time when lard consumption per person in the U. S. has been steadily decreasing. In 1957, per capita consumption of lard in this country was 9.5 pounds compared to 14.4 pounds in 1940. Only through an increased population has total lard consumption been able to remain at near pre-war levels.

Largest users of lard are homes, bakeries, and restaurants.

But in addition to this domestic market, lard has always been able to count on sales to some foreign coun-

tries. Between 1948 and 1958, exports took 18 to 25 percent of the total disappearance of lard. Cuba, Puerto Rico, England, and West Germany are our best customers.

With the domestic and export markets fairly stable, the expanded use of lard in manufacturing has been the big factor in lard marketing. It has been made possible through the concerted efforts of lard processors and renderers who worked together to produce a better product of high quality and uniform grade.

The substitution of lard for vegetable oils, however, will continue only as long as its price is favorable to the manufacturer. Since 1955, lard prices have been lower than other fats and oils. So, manufacturers of shortening and margarine have become customers for lard. This has helped stabilize lard prices. In the past 3 years, lard prices have never varied more than 1.7 cents a pound from the average yearly wholesale price.

A more detailed account of the past 10 years in lard marketing will be given in a report now being prepared by the Market Organization and Costs Branch of AMS.

Sizable quantities of U. S. lard are exported to Cuba, Puerto Rico, England, and West Germany.



The author is an agricultural economist in the Marketing Research Division of AMS.

GRAIN INSPECTION and GRADING



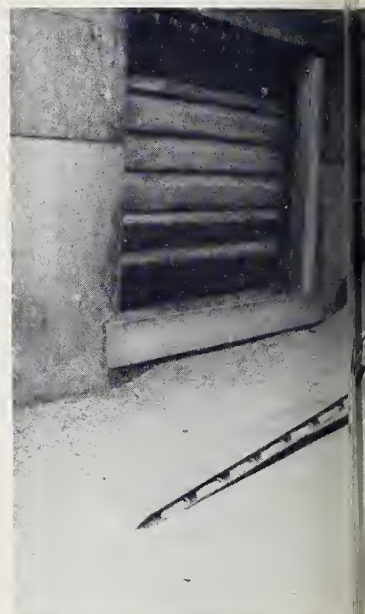
Foreign buyers want to know grade of grain at export. Here, AMS inspectors use a pelican spout to draw sample of wheat as grain pours into the hold of ship.

THE INSPECTION and grading of grain has played a major role in the American marketing system. Ever since the middle 1800's, attention has been focused at one time or another upon grade standards for grain.

In 1916, the problem of standardized grading gained national attention when Congress passed the U. S. Grain Standards Act. This Act, still in effect today, establishes official grain standards and sets up a system of licensing inspectors employed by private exchanges and State governments under the supervision of the Federal government. It assures uniformity of inspecting and grading practices as well as a means of appeal.

Standards are in effect for wheat, corn, barley, oats, rye, grain sorghums, flaxseed, soybeans, and mixed grain. These standards are broken down into grades, classes, subclasses, and special grades to describe the many qualities of grain.

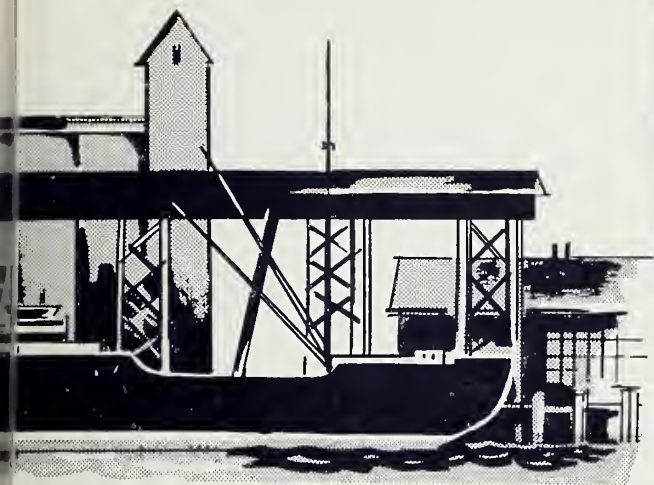
The application of the standards begins with obtaining a representative sample of the lot being submitted for inspection. The sample is then analyzed by an inspector and, in the case of appeal, by a Federal supervisor for kind, class, subclass, test weight per bushel, moisture, odors, insects, damaged kernels, foreign material, general condition, and other factors which determine grade. A certificate of grade is then issued and this is recognized in both domestic and foreign commerce as a basis of contractual settlement.



AMS inspector empties corn from p...

This mechanical sampler is another





In the laboratory, AMS inspectors divide corn into working samples. When job of grading is completed, a prospective buyer will know exact quality of the grain.



cloth. Sample sets grade of carload.



drawing sample for grade analysis.



Weight per bushel is determined by inspector at right. Grain is divided and re-divided by cone-shaped divider at left until small working sample is obtained.



Is a sample sound and uncontaminated? Inspector finds out by close examination. To determine percentage of damaged kernels, he uses a highly sensitive balance.

BETTER LOADING METHODS IMPROVE TRUCK SHIPMENTS OF APPLES

by Ronald A. Shadburne

IMPROVED loading methods for apples shipped by truck in fiber-board boxes can reduce container and commodity damage and improve refrigeration of the fruit during transportation.

These are the preliminary findings of a study conducted by the Agricultural Marketing Service in cooperation with the Maine Agricultural Station and the Maine Department of Agriculture.

The study, undertaken at the request of New England shippers of McIntosh apples, pinpoints some of the loading faults that result in damaged apples arriving at the retail market.

Basically, there are three common faults.

- Boxes are stacked in such a way that during transit the load shifts.
- Too many boxes of different sizes are used in a single load.
- The arrangement of the boxes in the trailer prevents adequate circulation of air.

Since most of the damage occurs in boxes piled at the rear of the trailers (on the overhang behind the tandem axle), here's where AMS transportation specialists began their work.

They found that rough places in the road and normal truck vibrations caused the two bottom layers of the last two or three stacks to shift toward the rear of the trailer, while the top layers of the same stacks shifted slightly forward. This action resulted in crushing, squeezing, buckling, puncturing, or denting of the boxes—and, of course, damage to the fruit within.

Shifting loads can be prevented, to a large extent, by adjustable gates and load locking devices.

Too many boxes of different sizes also cause loads to shift. With boxes of several sizes, stacks become irregular and loads loose fitting. The result is an irregular and crosswise movement of the containers.

Damage of this type is most common in mixtures of three or more different size boxes. Loads of only two sizes showed considerably less damage.

Transit temperature is the third important factor in truck transportation of McIntosh apples. It is particularly important with shipments of controlled-atmosphere apples moving from Massachusetts and Maine to Florida during April and May.

As they move southward, apples become progressively softer—unless adequate refrigeration is maintained.

To find the best way to load apples

for their trip South, AMS researchers tested a crosswise offset loading pattern. In this, boxes were stowed lengthwise of the trailer and all boxes in succeeding stacks placed in the same position as those in the first stack. This provided continuous air channels from the front to the rear of the load alongside the sidewalls of the trailer.

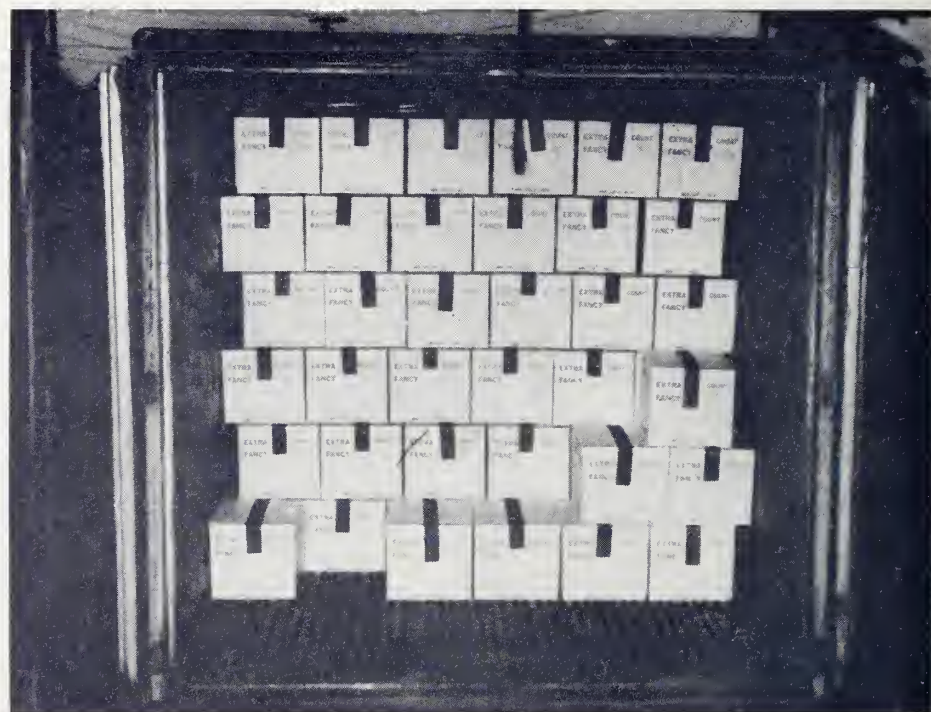
A limited number of shipping tests with this loading pattern indicated that these channels, plus a space of 10 or 12 inches between the rear of the load and the door of the trailer, provide good refrigeration during transit.

Preliminary tests also showed that the air circulation in the trailer body is better if there are strips along the sidewalls and rear doors to keep the load from fitting too tightly against them. Large grooves in the trailer floor, floor racks, and vented boxes further aid circulation.

Closer supervision of loading operations and a more systematic arrangement of loading orders result in better loading practices, reduced loading time, and more efficient handling with less container damage.

This means better apples for the consumers — and better income to farmers and retailers.

There's less container and commodity damage, better air circulation in truck shipments of apples if boxes are arranged in crosswise offset pattern with containers stacked lengthwise of trailer.



The author is a transportation economist in the Marketing Research Division of AMS.



Wire Baskets

Help to Market Eggs at Retail Level

by Gordon Flynn

COLLAPSIBLE wire baskets, which can be used for handling eggs from nearby packers through in-store handling and display at retail, offer sizable savings in labor and container costs.

When used in place of fiberboard containers by 25 stores of a Minnesota food chain, total annual handling costs were reduced \$4,700.

The most obvious advantage of the wire baskets is in handling ease at the retail store. They remove the need to handle cartons individually.

The cartons remain in the wire baskets from the time they leave the packer to the time they are purchased by the consumer. They are price-marked through the wires of the baskets; they are displayed still in the same basket.

In display, the wire containers are positioned in the case two deep, one behind the other. When the display gets low, the empty container is removed and the rear container pulled forward. Another full basket is then placed in the back of the case.

This not only eliminates individual handling but assures a constant rotation of merchandise.

Wire baskets also have a cost advantage over fiberboard containers. Although the baskets cost more origi-

nally (\$2.85 compared to 20.5 cents), they last so much longer that a saving actually results.

Fiberboard containers hold 30 dozen eggs and make one round trip a week. They have a life expectancy of 4½ round trips. Figuring a volume of 40,000 dozen eggs a week, this means 15,404 fiberboard containers a year.

Wire cases which hold 24 dozen eggs last at least 2 years. With a volume of 40,000 dozen eggs and one round trip a week, only 1,667 wire baskets would be needed.

This reduction in container requirements brought the Minnesota chain a saving of \$782.50 a year in material costs. The savings in labor (computed at \$2.04 an hour) totaled \$3,953.52.

In addition to these very tangible benefits that can be added up in dollars and cents, there are several other advantages that come from using wire baskets. It is easier to maintain full displays during peak periods; less breakage occurs because individual cartons are not handled; and time is saved at the packers' level.

The added convenience of wire baskets and the resultant savings in labor and material are but one of many benefits that may be obtained from this type of AMS research. In cooperation with the food industry, the Agricultural Marketing Service is constantly seeking—and finding—new ways to hold down marketing costs.



The author is a marketing specialist in the Marketing Research Division of AMS. He is located in Minneapolis, Minn.

Consumer Marketing Program

Extension Service's consumer marketing program seeks to improve the flow of information between those who buy and those who produce and market farm products.

CANTALOUPE prices in Delaware were low. The retail market was flooded with cantaloupes. Carloads had come from California, Arizona, and the Carolinas—and the Delaware crop was ripe and ready.

It was truly a buyers' market. Yet not many housewives were taking advantage of the situation. Some were not even aware that big supplies had brought prices down. Others hesitated to buy because they didn't know how to select melons or how to care for them.

As part of the consumer marketing program of the State Extension Service, marketing agents spread the word about cantaloupes as well as other melons. They explained about the supply and demand situation. They described the growing, grading, and testing of top-quality melons.

At the same time that they were doing this work on melons, Delaware marketing specialists were carrying out a consumer information program on all other aspects of food marketing. They were educating consumers so they could make buying decisions in line with their needs and resources.

This is the same job that is being performed daily by 113 other Extension people in 39 other States and Puerto Rico.

The Extension Service's consumer marketing program seeks to improve the flow of information between those who buy and those who produce and market farm foods and fibers. Marketing specialists in the States help consumers better understand the products on the market, and the producers and processors the needs and wants of the consumers.

Consumer, in this case, includes far more than the individual homemaker. It also means the quantity buyers who purchase food for restaurants, hospitals, old-age homes, and so forth. Institutions such as these are an important part of our consumer market; their purchases account for 18 to 20 percent of the value of all food moving through commercial channels.

But whether it's the institutional buyer or the individual homemaker, there is a continuous need for educating them on changes taking place in our dynamic agricultural market.

In addition to knowing the available supplies of farm products, buyers must have information on quality, price, convenience, etc., before making a purchase.

Many homemakers—particularly the very young—don't know how to shop for fruits, vegetables, meat, and dairy items. They *think* something looks good, but they aren't sure—and they don't know whether the price fits the quality.

Meat cuts are especially difficult to pick out. U.S. grades make it easier, but not everybody understands the grade markings.

To help the consumer buy the quality of meat she prefers and to expand the market for beef, Extension workers in Hawaii recently held several meat-buying clinics. One of these in Honolulu drew nearly 1,000 people.

At this meeting, various beef cuts were shown and identified, their nutritive value explained, and the USDA grades illustrated. Hawaiians emerged from the session full of basic beef facts, ready to tackle meat coun-

ters with a new understanding of quality, grades, and prices.

Another project of the Hawaii Extension Service explained to the people about refrigerated Island eggs. Refrigeration has not been widely used because many Islanders associate refrigeration with lower quality.

The consumer marketing specialist in Hawaii has been busy convincing homemakers that refrigeration means better—not poorer—eggs.

As a result, several Honolulu supermarkets, one in Maui, and another on the Island of Hawaii have installed refrigerators for eggs. Consumers, too, are beginning to store eggs in home refrigerators and are generally accepting "refrigerator eggs" as good eggs.

How the consumer marketing job is handled by the State extension services depends pretty much on the area in which it is being done. While newspapers continue to be the broadest means of communication, radio and TV also are good outlets for marketing information. The Extension workers use whichever media best reaches the group most needing the information.

In Georgia, for example, all three media were used successfully in an educational program on peaches.

Newspapers told of the heavy supply situation, and a special Sunday magazine article featured the Georgia peach crop.

At the same time, many people were hearing about the availability, price, selection, and care of peaches over the radio. Eleven radio spots ran full blast for three weeks.

On television, the picture story of

peaches was told. One station offered free pamphlets on freezing and canning methods. (More than 1,200 requests poured in—the greatest response this station had ever had for free literature.)

Other examples, similar to the Georgia peach program, can be shown in State after State, for commodity after commodity. Tennessee Extension people gave emphasis to educational materials on broilers and strawberries in 1958, both of which were in heavy supply and low priced. In Michigan, cheese was played up, and in Missouri, turkeys.

Besides local items, consumer marketing personnel provide information on products coming from all over the country. They assemble and disseminate the most complete and accurate marketing information available.

Such an educational program is essential to consumers in urban areas, away from the points of production. These people are not always aware of the changes that take place in food and fiber marketing. Yet they need to be able to adapt their purchases to these changes—to shifts in production, new technological developments, new packaging, and better storage and handling methods.

It is equally important, however, that the producers and processors know what the consumer wants. And it helps to know why she wants it. Consumer marketing workers spend a good deal of time discussing with producers and marketing firms the needs and wants of consumers, and

their changes in tastes, purchasing patterns, and so forth.

Because the consumer may be rich or poor, highly educated or of no education at all, from North, South, East, or West—any sweeping statements about ALL consumers probably would be inaccurate. Yet, Extension surveys indicate that definite patterns do exist in food purchases—wherever the family may live and whatever its income and background.

Studies were made in Raleigh, N. C.; Lake Charles, La.; and the Wheeling-Steubenville area of West Virginia and Ohio. These show few differences in the motivations and values of comparable homemaker groups and even fewer differences in their general level of marketing knowledge.

All homemakers, for instance, want to get as much as possible from their food dollars. Women from low-income families stress economizing—saving money on food, staying within a budget, and comparing prices. Higher income homemakers want their money's worth in quality and in being able to satisfy their families' food tastes.

Everyone wants nutritional value in the foods they buy, particularly those in the better educated, higher income groups. Yet many of these people, as well as many poorer and less educated housewives, aren't interested in learning anything more about nutrition. They are perfectly satisfied with what they already know.

Also, they don't appear too inter-

ested in recipes, menus, and food columns that tell of new and exotic dishes. Sure, women look at these and perhaps even read them, but their effectiveness, even as "sugar coating" for marketing information, is questionable.

What women really want is information that allows them to compare food products and different forms of the same product in terms of price and quality. Economics, broadly speaking, is the key to consumer purchasing patterns.

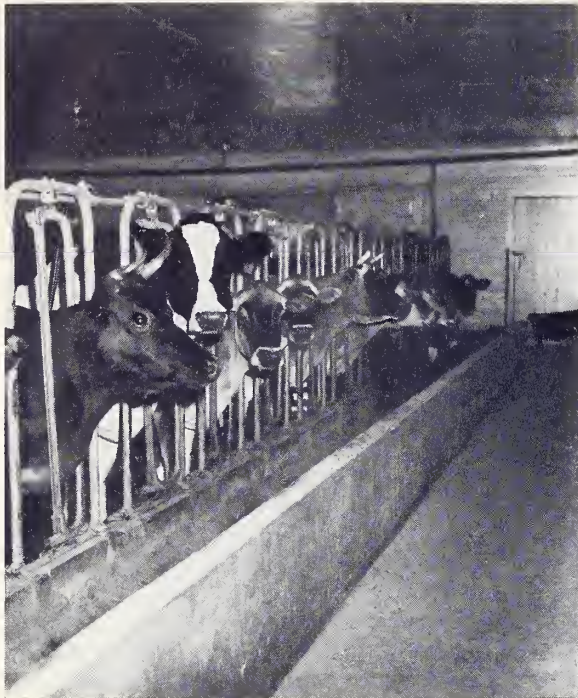
Newspapers, the survey shows, are the best medium for food advertising and for marketing information on food. The printed word can be read, reread, clipped, and filed. And for some reason or other, it commands more authority than casual statements on radio and television.

In some areas, television and radio offer excellent outlets for food information. They reach many people who actually prefer pictures to words. However, programs which feature food facts are rapidly losing out in radio's swing to music and news and television's rush toward more network shows.

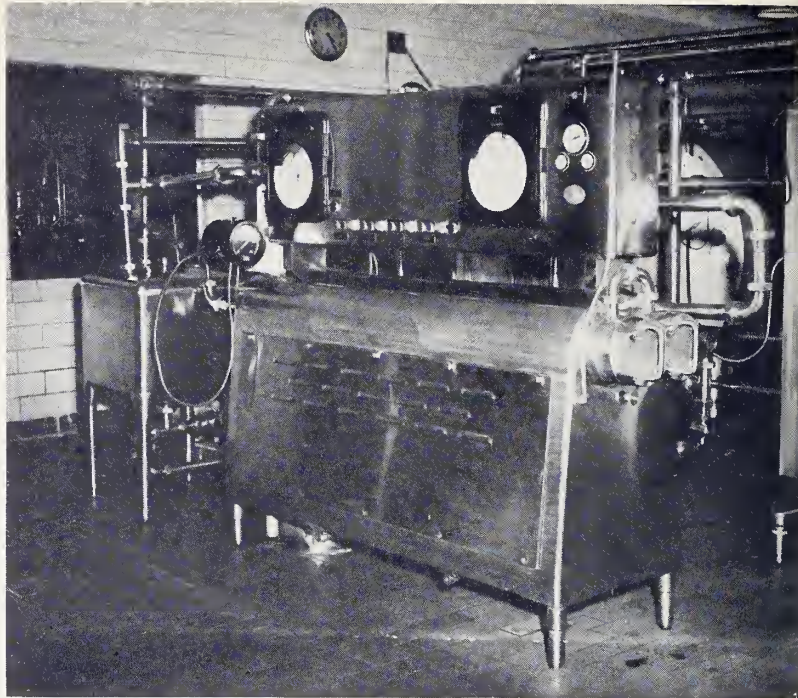
Yet, through the use of these three mass media—radio, television, and the daily press—extension marketing programs make their information available to about 60 percent of the people in the United States. Still others are reached through the use of bulletin boards, information clinics and meetings, and direct person-to-person programs.

Extension's consumer marketing program disseminates a wealth of information about food supplies, prices, quality, etc. Below left, Catherine Brent of Missouri conducts information clinic; at right she appears before TV audience. New York marketing specialist (center) tells of month's best buys.





This spotless barn illustrates high standards maintained by milk producers who meet the USDA sanitation specifications.



Immaculate modern processing equipment, such as this high-temperature, short-time pasteurizer, guarantees safe, wholesome milk and dairy products for the consumer.

New Standards Proposed to Improve

QUALITY OF DAIRY PRODUCTS

by Ed Small

QUALITY in dairy products, as in practically anything else, is determined largely by two things: the quality of the raw materials used and the methods of manufacture and handling.

The U. S. Department of Agriculture has long had quality standards for finished dairy products, such as butter, cheese, and dry milks. Now it is formulating quality requirements for the raw material—the milk used in manufacturing these products—and minimum specifications for dairy plant operations.

Both of these—the “Recommended Quality Requirements for Milk to be Used for the Manufacture of Dairy Products” and the “Recommended Minimum Specifications for Dairy Plant Operations”—have been devel-

oped by dairy products specialists of the Dairy Division, Agricultural Marketing Service, at the request of some industry groups.

At two working sessions, a group of technicians representing all segments of the dairy manufacturing industry and various regions of the country provided assistance and guidance on technical problems. Representatives of State universities and colleges and other Government agencies also provided substantial help.

When the “quality requirements” and “minimum specifications” have been issued as official proposals by the USDA, all interested persons will have opportunity to file comments on them. After considering these comments and making whatever changes are desirable, the Department will then issue them in final form.

They are offered as “recommended” requirements and specifications for adoption by States producing manu-

facturing milk or by industry groups. When these standards are adopted, the State regulatory agency would be responsible for the administration of all of the provisions. USDA would provide a survey service, in cooperation with the regulatory agency, to check the quality of the finished products and work with milk graders, laboratory and field staffs, and official inspectors.

Since quality of milk is influenced to a large degree by the health of the herd, sanitary practices, and methods of handling, both the quality requirements for milk and the plant specifications are aimed chiefly at improving sanitation and care in the production and handling of milk and dairy products.

The “Recommended Quality Requirements for Milk to be Used for the Manufacture of Dairy Products” deal with (1) health of cows; (2) utensils and equipment (minimum re-

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quirements and sanitation); and (3) specifications and rejection levels for raw milk at the receiving plant as determined by sight and odor, bacteria estimate, and sediment content. The program would be operated under a system of farm inspections and certification. Quality of the milk would be checked by organoleptic examination and through laboratory testing at receiving plants, supervised by the State regulatory agency and periodic USDA surveys.

An appendix to the "quality requirements" contains guidelines to aid the farmer in producing milk of the quality specified.

The "Recommended Minimum Specifications for Dairy Plant Operations" complements the "Recommended Quality Requirements for Milk to be Used for the Manufacture of Dairy Products." It carries specifications for dairy plant operations including premises, plant, facilities, equipment, and utensils; personnel, cleanliness, and health; quality specifications for raw milk; protection and transportation of raw milk; plant operations and operating procedures (including methods, storage, pasteurization, laboratory control tests, composition and wholesomeness, cleaning and bactericidal treatment of equipment and utensils); packaging and general identifications; storage of finished products; and program adoption and survey.

Dairy products specialists and some industry groups feel that the adoption of these requirements and specifications by producing States would be a major forward step in improving raw milk quality and consequently product quality and stability.

The preface to each of these standards states that they are designed to:

1. Encourage the production of good quality milk;
2. Promote efficient and sanitary processing;
3. Assure stable high quality dairy products; and
4. Increase the appeal of these products and their acceptance by consumers.

Retail Sales by Brand, Container Size

Food retailers, in an effort to satisfy a majority of their customers, stock many slow-moving items along with the more popular ones. However, with supermarket shelf space at a premium, the retailer needs to know which of the slow-moving items are "shelf warmers," contributing little to total sales and profits.

In connection with an 8-week retail merchandising experiment in 12 eastern supermarkets, AMS researchers kept sales records for 89 items representing 7 different products. (Each can size of each brand of a product is considered an item.) These records showed that 34 of the 89 items accounted for 82 percent of total sales.

Applesauce, for example, was stocked in 2 brands (A and B) and in 3 different container sizes (16-ounce and 8½-ounce cans and 15-ounce jars). Yet the 16-ounce can of Brand A and the 15-ounce jar of Brand B accounted for 75 percent of the sales. Of these 2 items, Brand A made up two-thirds of the 75 percent. The combined sales of all other applesauce items did not even outsell the second ranked item, the 15-ounce jar of Brand B.

Tomato juice sales followed much the same pattern. Two of the 7 sizes displayed comprised 76 percent of the tomato juice sales.

Sales of pineapple juice, which came in four different can sizes, centered on the 46-ounce container. This size was chosen 4 out of 5 times.

When the sales data were analyzed by brand, it was found that 4 of the 14 brands of tomato juice accounted for 76 percent of these sales. Two of the 10 brands of canned peaches comprised 85 percent of total peach sales.

To get the most profit per square foot of selling space, the retailer must consider his margins, turnover, and labor costs for the items he displays. It is possible that he may find it profitable to offer fewer brands and sizes and still satisfy the majority of his customers. However, management should be careful to take into consideration customer reactions to any reduction in the variety of items offered.

Shipping Containers for Frozen Turkeys

Too great a variety of containers is being used to ship frozen turkeys to market, according to the Agricultural Marketing Service. Many of these containers are ill suited for the job, and both containers and turkeys become damaged en route.

In its search for the best all-around shipping box for turkeys, AMS selected 5 for a 3,000-mile road test. All were made of corrugated fiberboard but each was different in strength, size, shape, or construction.

The containers with the least damage were those with a tight, firm pack and strong structural design, with little space between the turkeys and the tops of the boxes.

The best container was also the most expensive. The second-best box, however, was the least expensive. While this box became creased and scuffed in transit, it brought the turkeys to market without damage. Its use could save shippers about \$240 a truckload in containers costs.

The performance of each of the five test containers, as well as comments of the men who handled and stored them, may be found in MRR-354, "Shipping Containers for Frozen Tom Turkeys."

The Changing Market

Recording Sales Orders

Distributors of frozen food can save \$4.54 per 100 orders if they record and transcribe salesmen's orders mechanically instead of manually, according to a recent Agricultural Marketing Service report.

One firm that handled 900 orders daily saved \$18,745 a year by switching to order recording devices. Another frozen food company with a daily volume of 300 orders cut its annual costs \$3,167.

Savings resulted from reduced labor requirements, elimination of overtime work, and reduced telephone expenses. They represented a 161 percent increase in productivity and a 54 percent reduction in processing costs.

Using the mechanical method of order taking, salesmen's orders are recorded over the telephone on records. An employee then listens to the playback and selects punchcards bearing each customer's name, address, and order.

Orders received directly from customers, however, still must be handled by the manual method.

Also, it may not be either possible or practical for some frozen food distributors to use recording and transcribing equipment. Firms without automatic accounting equipment cannot use these devices because there is no way to eliminate writing out orders in longhand. Small-volume firms probably would find their savings too small to offset the cost of automatic recording equipment.

This AMS study on recording sales orders is part of a broad program to expand markets for farm products by improving marketing efficiency. A free copy of "Mechanically Processing Wholesale Frozen Food Orders," AMS-317, can be obtained from the Marketing Information Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington 25, D. C.

Plentiful Foods List

Pork and cheese will be the featured items on the October Plentiful Foods list of the U.S. Department of Agriculture. Also in abundant supply this month will be lard, eggs, turkeys, broilers and fryers, onions, grapes, apples, sweet potatoes, fresh, frozen, and canned shrimp, almonds, and rice.

Lamb also will be plentiful in certain areas.

Matching Fund Program

(Continued from page 3)

for replacement ewes. So, State marketing agents, in cooperation with county agents, organized and conducted a special native ewe sale.

In this way, the supply of ewes was increased and a better market created for local producers. The 1,500 head of ewes sold at this special sale brought about \$2 more a head than they would have through private sales.

Shift in Vegetable Production

Production of vegetables for commercial processing has doubled in the past 20 years and acreage has increased by a fifth.

But the most important trend in the industry has been the shift in production area. AMS statisticians report a more than four-fold increase in vegetable production in our Western States. Whereas this area produced 20 percent of the national total in 1935-38, it accounted for 46 percent in 1955-58.

Consistent and rapid increases in both acreage and yields have made this possible. The Western region put 258,000 more acres in vegetables; it increased its yields 3.7 tons an acre.

Substantial production increases also were witnessed in the North Central region, where 50 percent more vegetables were produced from only a slightly increased acreage. However, despite the area's larger production, its share of the national total dropped from 42 to 32 percent.

The North Atlantic, South Atlantic and South Central regions showed similar declines in relative importance. While yields were generally higher than in 1935-38 and acreages also were up (except in the South Atlantic area), the increases were not enough for these States to maintain their position in the national total. The share of the South Atlantic group dropped from 15 to 7 percent; the South Central States from 4 to 3 percent; and the North Atlantic area from 19 to 13 percent.